

Title (en)

SOLAR CELLS HAVING NANOWIRE TITANIUM OXIDE AND/OR SILICON CARBIDE CORES AND GRAPHENE EXTERIORS

Title (de)

SOLARZELLEN MIT NANODRAHTTITANOXID- UND/ODER SILICIUMCARBIDKERNEN UND GRAPHENHÜLLEN

Title (fr)

CELLULES SOLAIRES AVEC CUPS EN NANOFILS D'OXYDE DE TITANE ET / OU DE CARBURE DE SILICIUM ET EXTÉRIEURS EN GRAPHÈNE

Publication

EP 2828898 A4 20150624 (EN)

Application

EP 13827970 A 20130807

Priority

- US 201261681873 P 20120810
- US 201213682229 A 20121120
- US 201313908215 A 20130603
- US 2013053919 W 20130807

Abstract (en)

[origin: US2014041704A1] An apparatus comprising a high-temperature photovoltaic transducer that is disposed between a source of light and another modality of solar energy conversion such that both the high-temperature photovoltaic transducer and the another modality of solar energy conversion generate electricity using a same source of light.

IPC 8 full level

B82Y 40/00 (2011.01); **H01L 31/0312** (2006.01); **H01L 31/0352** (2006.01); **H01L 31/042** (2014.01); **H01L 31/054** (2014.01);
H01L 35/00 (2006.01); **H02S 40/44** (2014.01)

CPC (source: CN EP US)

B82Y 10/00 (2013.01 - EP US); **B82Y 30/00** (2013.01 - US); **H01L 29/06** (2013.01 - US); **H01L 29/0676** (2013.01 - CN EP US);
H01L 29/15 (2013.01 - US); **H01L 29/1606** (2013.01 - CN EP US); **H01L 29/1608** (2013.01 - CN EP US); **H01L 31/028** (2013.01 - CN EP US);
H01L 31/0312 (2013.01 - CN EP US); **H01L 31/032** (2013.01 - US); **H01L 31/0336** (2013.01 - US); **H01L 31/035227** (2013.01 - CN EP US);
H01L 31/035281 (2013.01 - CN EP US); **H01L 31/03529** (2013.01 - CN EP US); **H01L 31/0543** (2014.12 - EP US);
H01L 31/0547 (2014.12 - EP US); **H02S 10/10** (2014.12 - EP US); **H02S 40/00** (2013.01 - CN); **H02S 40/44** (2014.12 - EP US);
B82Y 10/00 (2013.01 - CN); **H10K 85/221** (2023.02 - CN EP US); **Y02E 10/52** (2013.01 - EP US); **Y02E 10/547** (2013.01 - EP US);
Y02E 10/60 (2013.01 - EP US)

Citation (search report)

- [XY] WO 2010053997 A1 20100514 - HU HAORAN [US], et al
- [X] WO 0005769 A1 20000203 - BTG INT LTD [GB], et al
- [X] US 2012192920 A1 20120802 - MCCOWAN WILLIAM PAUL [US], et al
- [A] US 4320246 A 19820316 - RUSSELL GEORGE F
- [A] US 2009057649 A1 20090305 - SUTTER ELI ANGUELOVA [US], et al
- [A] WO 2009074993 A2 20090618 - TECHNION RES & DEV FOUNDATION [IL], et al
- [Y] HYOUNG-IL KIM ET AL: "Solar Photoconversion Using Graphene/TiO₂ Composites: Nanographene Shell on TiO₂ Core versus TiO₂ Nanoparticles on Graphene Sheet", JOURNAL OF PHYSICAL CHEMISTRY C, vol. 116, no. 1, 12 January 2012 (2012-01-12), pages 1535 - 1543, XP055189776, ISSN: 1932-7447, DOI: 10.1021/jp209035e
- See references of WO 2014025865A1

Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)

BA ME

DOCDB simple family (publication)

US 2014041704 A1 20140213; US 8829331 B2 20140909; CN 104471721 A 20150325; EP 2828898 A1 20150128; EP 2828898 A4 20150624;
EP 2828898 B1 20171004; EP 3261132 A1 20171227; ES 2654622 T3 20180214; US 2017054044 A1 20170223; WO 2014025865 A1 20140213;
WO 2014025865 A9 20140619

DOCDB simple family (application)

US 201313908215 A 20130603; CN 201380031828 A 20130807; EP 13827970 A 20130807; EP 17186412 A 20130807;
ES 13827970 T 20130807; US 2013053919 W 20130807; US 201615264006 A 20160913